BOOK REVIEWS

Methods and Materials for Teaching Biological Sciences*

R. C. Benedict

In a book "prepared for teachers of elementary courses in the biological sciences ranging from junior high school to junior college," Professors Miller and Blaydes have produced a text which should be decidedly useful for biology teachers working in the indicated grades. The book is divided into two parts. The first part, "Principles and class room methods," deals in ten chapters totalling 130 pages with such pedagogical topics as "The biological basis of education," "The objectives of teaching in biological sciences," "Methods of presentation," "How to choose a text," etc. Part II, on the "Preparation and uses of class room materials," totals nearly 300 pages, divided into twelve chapters. This part of the book is essentially a manual in the teaching of biology, and should be a real practical help to many teachers. Each of the twenty-three chapters of the book has a well selected bibliography which will enable the interested teacher to go beyond the necessary space limitations of this volume.

As a whole, the Miller and Blaydes' book fills a place in the field of biology teaching for which there has been no text available since the Lloyd and Bigelow, "Teaching of biology in secondary schools," (Longmans, Green & Co., 1904) went out of print. Current texts which deal with biology teaching, such as those by Kinsey, Cole, and Hunter, are concerned almost entirely with educational principles and pedagogical methods, the material dealt with in the first part of the Miller and Blaydes. The three books just referred to are also more restricted in their scope and general content. For example, Kinsey's "Methods in Biology" (Lippincott), while excellent in its general analysis, is definitely focussed on a particular type of high school biology course, an elementary course of natural history type. The Hunter volume (American Book Co.) deals with biological methods only incidental to a consideration of all the high school sciences.

* Miller, D. T., and Blaydes, C. W. Methods and materials for teaching biological sciences. McGraw-Hill, 1938. $3.50.

The college teacher of biological sciences may find the first part of the Miller and Blaydes an interesting introduction to the field of science pedagogy. While much that is currently printed under this general head is of ephemeral value when not absolutely useless it is none the less true that many college teachers could profit through some well selected reading in the field of science education. For too many biology teachers, high school as well as college, the value of any given biology course is judged chiefly by the number of separate facts which the student can be made to memorize and repeat. The idea that piles of facts have no more real value than jumbled piles of bricks is obviously not as widely appreciated as it might be. The real responsibilities of science teaching can be realized only when factual material is used to build definite structures, and particularly, when the student is gradually trained to fashion his own syntheses.

One point becomes noticeable to anyone who compares recent educational literature with older discussions along the same line; vocabularies and phrases change as the years go by; the ideas remain much the same. Two older books, dealing with the presentation of a biological science objectively, and which may be consulted with profit, are Ganong's "The teaching botanist," and Osterhout's "Experiments with plants," both still in print (Macmillan).

An Introduction to Botany*

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It is appropriate to review Priestley and Scott's "Introduction to botany" in association with a review of "Methods in Biology" because this botany represents a distinctive methodology very carefully and logically worked out. Whether American botany teachers find its methods feasible under American conditions or not, it seems certain that they will find this text valuable both as an aid to their own teaching and as reference reading for their students.

The Priestley and Scott is designed to provide students both with general textual material and with directions for laboratory

* Priestley, J. H., and Scott, Lorna I. An introduction to botany. Longmans, Green & Co., Ltd., London, 1938. $6.00.